FACT SHEET CRYPTOSPORIDIOSIS

For Healthcare Providers **(Commonly referred to as "Crypto")**

What is Cryptosporidiosis?

Cryptosporidiosis is a parasitic infection caused by the protozoan *Cryptosporidium*. *Cryptosporidium parvum* and *Cryptosporidium hominis*, are the most prevalent species causing disease in humans. Once an animal or person is infected, the parasite lives in the intestine and passes in the stool. The infectious oocyst of the parasite is protected by an outer shell that allows it to survive outside the body for long periods of time and makes it very resistant to chlorine-based disinfectants.

What is the clinical description of Cryptosporidiosis?

The most common symptom of cryptosporidiosis is profuse and watery diarrhea. Other signs and symptoms include weight loss, stomach cramps, nausea, vomiting, and low-grade fever. Although infection is usually limited to the gastrointestinal tract, *Cryptosporidium* infections could possibly affect other areas of the digestive or the respiratory tract. Asymptomatic infections are common and often serve as a source of infection for others. Symptoms often wax and wane, but remit in fewer than 30 days. In most immunocompetent people (including children), the illness is self-limited, lasting 1 to 20 days (average 10 days). Immunodeficiency, especially in HIV infection, is associated with an inability to clear the parasite, and the disease may have a prolonged and fulminant clinical course, leading to death.

How is *Cryptosporidium* transmitted?

In order for infection to occur, the susceptible host must ingest water or other materials contaminated with the *Cryptosporidium* oocysts, referred to as fecal-oral transmission. Important routes of transmission include person-to-person, animal-to-person, foodborne, and waterborne (drinking and recreational).

Who is most at risk for Cryptosporidiosis?

Anyone can get cryptosporidiosis. People who are most likely to become infected with *Cryptosporidium* include: Child care workers and diaper-aged children who attend child care centers; Parents of infected children; International travelers; Swimmers who swallow water while swimming in swimming pools, lakes, rivers, ponds, and streams; and backpackers, hikers, and campers who drink unfiltered, untreated water.

How long is Cryptosporidiosis communicable?

The disease is communicable for as long as the infected person excretes *Cryptosporidium* oocysts. Excretion generally begins at the onset of symptoms. Oocysts continue to be excreted in the stool for several weeks after symptoms subside, and they may remain infective outside the body for 2 - 6 months in a moist environment.

What laboratory tests are used to diagnose *Cryptosporidium*?

Diagnosis is generally made by the microscopic identification of oocysts in fecal smears (Ova and Parasite Exam). Organisms can also be identified in intestinal biopsy tissue. For microscopic examination, there are three techniques available: wet mounts, stained smears (e.g., modified acid fast stain), and immunofluorescent staining. In addition, new and more sensitive enzyme immunoassay (EIA) tests have recently become available. EIA kit sensitivities and specificities reportedly range from 93 to 100 percent when used in a clinical setting. Since the infectious oocysts are excreted from the body intermittently, at least two stool samples should be examined before the test can be considered negative and *Cryptosporidium* is ruled out as the diagnosis.

The State Hygienic Laboratory uses the routine Ova and Parasite (O & P) microscopic exam and a special acid fast stain for *Cryptosporidium* if requested.

Is there a treatment for diarrhea caused by *Cryptosporidium*?

Yes, FDA licensed Nitazoxanide (Alinia®, Romark Laboratories, Tampa, FL, USA) for persons with healthy immune systems $\geq$ 1 year of age.

What about patients with compromised immune systems?

Nitazoxanide has been approved for treatment of diarrhea caused by *Cryptosporidium* in people with healthy immune systems. It is currently not approved to treat immunodeficient persons.

What is the dosage used for Nitazoxanide?

Immunocompetent Persons	
Adult dosage	500 mg BID x 3 days
Pediatric dosage	1-3 years; 100 mg BID x 3 days
	4-11 years; 200 mg BID x 3 days

Nitazoxanide oral suspension (100 mg/5 ml; patients ≥1 year of age) and Nitazoxanide tablets (500 mg; patients ≥12 years of age) are indicated for the treatment of diarrhea caused by *Cryptosporidium*.

What is the efficacy of Nitazoxanide?

Clinical cure (resolution of diarrhea) occurs in 72-88 percent of patients. Parasitologic cure (no *Cryptosporidium* detected in the stool) occurs in 60-75 percent. It may take up to 5 days for diarrhea to resolve in approximately 80 percent of patients.

What should I tell my patients with cryptosporidiosis?

- All infected persons, including those who have completed treatment, should not swim for two weeks after resolution of symptoms. *Cryptosporidium* oocysts are chlorine-resistant. It is critical that this recommendation is followed to prevent the spread of cryptosporidiosis through public swimming pools and other aquatic venues.
- Wash hands with soap and water after using the toilet, changing diapers, and before eating or preparing food.
- Avoid fecal exposure during sexual activity.

Is my patient required to have two negative stools before returning to school, child care, or work settings?

IDPH does not require persons with confirmed cryptosporidiosis to provide two negative stools to return to school, child care, or work settings. Persons with cryptosporidiosis should stay home until diarrhea and vomiting resolve.

For more information:

- CDC: www.cdc.gov/parasites/crypto/index.html
- CDC: www.cdc.gov/parasites/crypto/health_professionals/tx.html